

WHAT IS CLAIMED IS

1. A portable antenna comprising a first reception stage including three antennae oriented so as to form a substantially orthogonal reference mark, capable of receiving an external signal within a given frequency range, a second processing stage for the signals delivered at the outputs of said antennae, and a third stage for selecting one of the signals delivered at the output of said second processing stage, wherein said second processing stage includes first and second phase-shifters connected at the output of two of said antenna, said signals delivered at the output of these two antennae being phase-shifted by an angle of  $\pi/2$  or  $3\pi/2$  in relation to each other, and means for combining said phase-shifted signals forming a first signal delivered to said third selection stage, wherein said signal delivered by the third antenna corresponds to a second signal delivered to said selection stage, and wherein said third selection stage includes means for selecting from among said two signals delivered at the output of said second stage, either the signal having the largest amplitude, or one of the two signals having an amplitude larger than a reference amplitude, or arbitrarily one of the two signals if they have the same amplitude.

2. The portable receiver according to claim 1, wherein corrector means for correcting the attenuation introduced by the first and second phase-shifters, are placed between said third antenna and the corresponding input of said selection means.

3. The portable receiver according to claim 2, wherein a first amplifier is placed between the means for combining the phase-shifted signals and said selection means and wherein a second amplifier is placed between the corrector means and said selection means.

4. A portable receiver comprising a first reception stage including three antennae oriented so as to form a substantially orthogonal reference mark, capable of receiving an external signal within a given frequency range, a second stage for processing the signals delivered at the outputs of said antenna, and a third stage for combining the signals delivered at the output of said second processing stage, wherein said second processing stage includes first and second phase-shifters connected at the output of two of said antennae, said signals delivered at the output of these two antennae being phase-shifted by an angle of  $\pi/2$  or  $3\pi/2$  in relation to each other, and means for combining said phase-shifted signals forming a first combined signal provided at the input of first means for raising to the second power, wherein said second processing stage further includes corrector means placed at the output of the third antenna, to correct the attenuation introduced by the first and second phase-

shifters in series with second means for raising to the second power, and wherein said third combination stage includes an adder receiving at input the signals provided at the output of said first and second means for raising to the second power.

- 5     5.    The portable receiver according to claim 4, wherein said second processing stage further includes first and second filtering means respectively placed between said first and second means for raising to the second power and the adder.